

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

**PLAINTIFF’S POST-HEARING BRIEF IN SUPPORT OF  
MOTION FOR PARTIAL SUMMARY JUDGMENT OF VALIDITY  
BASED UPON *INTER PARTES* REVIEW ESTOPPEL  
UNDER 35 U.S.C. § 315(e)(2)**

Plaintiff, Singular Computing LLC (“Singular”), respectfully submits this post-hearing brief in support of its motion for partial summary judgment of validity based upon *inter partes* review estoppel.<sup>1</sup> For the reasons set forth herein and in its prior briefs, Singular requests that the motion now be granted.

**I. GOOGLE’S ARGUMENT IS CONTRARY TO THE PURPOSE AND INTENT OF THE IPR STATUTE**

According to Google, it is permitted to withhold Section 102/103 invalidity grounds from the IPR proceedings, notwithstanding its knowledge of allegedly invalidating prior art, and now resurrect such in litigation in this Court. Google is wrong. One thing is certain under the IPR statute – a defendant does not get a “second bite” at the invalidity apple:

Allowing an IPR petitioner to have two bites at the apple by holding back certain [arguments] runs counter to both the clear language and purpose behind § 315.”

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<sup>1</sup> Exhibit AA is attached to the accompanying Third Declaration of Kevin Gannon. Exhibits A-Y were submitted with the original Declaration of Kevin Gannon. *See* Dkt. No. 377-3. Exhibit Z was submitted with the Second Declaration of Kevin Gannon. *See* Dkt. No. 401-1.

*Novartis Pharms. Corp. v. Par Pharm. Inc.*, No. 14-1494, 2019 WL 9343055, at \*2 (D. Del. Apr. 11, 2019); *see also Parallel Networks Licensing, LLC v. Intern. Bus. Machs. Corp.*, No. 13-2072, 2017 WL 1045912, at \*12 (D. Del. Feb. 22, 2017), *aff'd*, 721 Fed. Appx. 994 (Fed. Cir. 2018).

Nonetheless, that is the strategy that Google is pursuing here. Allowing Google to succeed in this regard would make a mockery of the IPR statute. Google could have petitioned for IPR on the grounds that the asserted claims are anticipated and/or obvious in view of the VFLOAT/CNAPS/GRAPE-3 devices as described in printed publications in its Invalidity Contentions. Google chose not to and must now face the consequences under 35 U.S.C. § 315(e)(2).

One of the Congressional goals of IPR is to reward patentees who survive the IPR process (such as Singular):

During the enactment of the AIA, then Director Kapposemphasized the importance of the estoppel provisions, characterizing them broadly as ***an advantage to patentees*** who had successfully gone through the post-grant system:

If I can say that in my own words also, that I believe ***there are significant advantages for patentees who successfully go through the post-grant system ... because of those estoppel provisions***. Those estoppel provisions mean that your patent is largely unchallengeable by the same party.

*America Invent's Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 52–53 (2011) (statement of Director David Kappos).

*See Am. Tech. Ceramics Corp. v. Presidio Components, Inc.*, No. 14-CV-6544, 2019 WL 365709, at \*3 (E.D.N.Y. Jan. 30, 2019) (emphasis added).

Google's actions, if successful, would deny Singular this advantageous statutory reward. Contrary to Google's position, the statutory IPR scheme prohibits Google from pursuing its invalidity arguments here that it could have raised in IPR:

A patent infringement defendant does not have to take the IPR option; it can get a full hearing of its validity challenge in district court. If the defendant pursues the

IPR option, it cannot expect to hold a second-string invalidity case in reserve in case the IPR does not go defendant's way.

*Douglas Dynamics, LLC v. Meyer Prods. LLC*, No. 14-cv-886-JDP, 2017 WL 1382556, at \*4 (W.D. Wis. Apr. 18, 2017). Moreover, holding Google to this bargain would also be consistent with “the AIA’s [statutory] purpose to streamline litigation.” *See, e.g., Synkloud Techs., LLC v. Cartessa Aesthetics, LLC*, No. 21-CV-4423, 2022 WL 1046261, at \*3 (E.D.N.Y. Apr. 6, 2022).

This case is particularly appropriate for estoppel because Google asserted in its Invalidity Contention claim charts that each and every element of the asserted claims are found in the printed publications cited therein:

- For VFLOAT, Google asserts that the claims are anticipated by the Belanović and Leiser printed publication (*see* Ex. R);
- For CNAPS, Google asserts that the claims would have been obvious in view of the Hammerstrom and other cited printed publications (*see* Ex. K)<sup>2</sup>;
- For GRAPE-3, Google asserts that the claims are anticipated by the Okumura *et al.* printed publication (*see* Ex. W).

Google could have used those same VFLOAT/CNAPS/GRAPE-3 printed publications in IPR but chose to hold them in reserve in case its IPR campaign was not successful.<sup>3</sup> That is precisely the conduct that the IPR statute protects against:

When a party chooses to seek IPR, but only on certain grounds, that choice comes with consequences, notably the risk of estoppel under § 315(e)(2).

*Am. Tech. v. Presidio*, 2019 WL 365709, at \*5.

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<sup>2</sup> Counsel for Google conceded at the January 11 hearing that a petitioner can (as Google did) argue motivation to combine references in IPR proceedings. *See* 1/11/23 Tr. at 29:5-14. Thus, Google could have made its CNAPS obviousness argument in the IPR proceeding.

<sup>3</sup> Google’s estoppel-avoidance strategy follows that outlined in a recent article by Nathan Speed *et al.* *See* DiMarco and Speed, Litigating Invalidity After IPR Resolution, 19 Chicago-Kent J. of Intell. Prop. 266 at 270-72 (2020). *See* Ex. AA.

Having chosen to withhold from IPR the VFLOAT/CNAPS/GRAPE-3 printed publications, Google cannot now avoid estoppel by relying upon “additional evidence” describing a device or system already allegedly described on an element-by-element basis in the printed publications cited in the claim charts:

Where there is evidence that a petitioner had reasonable access to printed publications corresponding to or describing a product that it could have proffered during the IPR process, it cannot avoid estoppel simply by pointing to its finished product (rather than the printed materials) during litigation. . . .

*Oil-Dri Corp. of Am. v. Nestlé Purina Petcare Co.*, No. 15 C 1067, 2019 WL 861394, at \*10 (N.D. Ill. Feb. 22, 2019).

At the January 11 hearing, Google also argued that it did not petition for IPR of the VFLOAT/CNAPS/GRAPE-3 devices using the asserted invalidating printed publications cited in its Invalidity claim charts because these grounds were somehow inferior to the grounds on which they did petition. *See* 1/11/23 Tr. at 33:17-34:2. This argument is not only disingenuous, but legally irrelevant. As set forth above, Google does not get to *sua sponte* reserve the right to bring a “second-string” invalidity argument in this court if (as it turns out) its IPR proved unsuccessful. *Douglas Dynamics*, 2017 WL 1382556, at \*4. Google pursued the “IPR option” and cannot now bring its “second-string” invalidity defenses in this case on grounds it could have asserted in IPR regarding the VFLOAT/CNAPS/GRAPE-3 devices. *See also T’tees of Columbia Univ. in the City of N.Y. v. Symantec Corp.*, 390 F. Supp. 3d 665, 669-70, 680-81 (E.D. Va. 2019) (estopping Symantec from pursuing invalidity arguments raised in invalidity contentions but not asserted in IPR, including those based on “the DIDUCE and ReVirt systems”).

## II. GOOGLE COULD HAVE ARGUED THE WITHHELD GROUNDS IN IPR

As pointed out in Singular’s prior briefing, Google served its Invalidity Contentions in this case in November 2020, when it filed its petitions for IPR. Singular submitted copies of the invalidity claim charts for the VFLOAT, CNAPS and GRAPE-3 systems as exhibits K, R, S and W to the Declaration of Kevin Gannon. *See* Dkt. No. 377-3. As is readily apparent from those charts, Google alleges that each element of the asserted claims (claim 53 of the ’273 patent and claim 7 of the ’156 patent) is found in the printed publications cited therein. Google’s claim charts did not assert that Google needed any “non-public” information to prove these devices invalidate the asserted claims. To the contrary, Google’s invalidity charts map all elements of the asserted claims solely against publicly-available printed publications.

Moreover, Google expressly stated that “[t]he attached respective [invalidity] charts (Exhibits 1-17) identify how *the prior art discloses each limitation of each asserted claim.*” *See* Ex. H, at p. 8 (emphasis added). In view of the foregoing, the additional evidence that Google now asserts it wants to rely upon is cumulative in the context of IPR estoppel. *See, e.g., Wasica Fin. GmbH v. Schrader Int’l Inc.*, 432 F. Supp. 3d 448, 455 (D. Del. 2020) (estopping use of “ZR-1 Sensor” because the “Siuru prior art publication” that could have been raised in IPR disclosed “the same claim elements” as the ZR-1 device).

Given that Google’s invalidity claim charts rely solely upon printed publications for each and every element of the asserted claims (*see* Exs. K, R, S, W), there is no reason that Google could not have presented these charts and printed publications in the IPR proceedings. Google knew exactly what it was doing by strategically not petitioning for IPR on these grounds. Following the estoppel-avoidance legal strategy set forth in the article cited in footnote 3 above, Google held these grounds in abeyance in case its IPR was not successful in knocking out all of

the asserted claims. That is precisely the type of conduct that the IPR estoppel statute is aimed at preventing. *See Douglas Dynamics*, 2017 WL 1382556, at \*4 (“[i]f the defendant pursues the IPR option, it cannot expect to hold a second-string invalidity case in reserve in case the IPR does not go defendant’s way”); *see also Am. Tech. Ceramics*, 2019 WL 365709, at \*5 (“[w]hen a party chooses to seek IPR, but only on certain grounds, that choice comes with consequences, notably the risk of estoppel under § 315(e)(2)”).

In other words, instead of rewarding Singular with estoppel for surviving Google’s IPR challenge, as contemplated by the IPR statute, Google now wants an improper “second bite at the [invalidity] apple” based upon these same VFLOAT/CNAPS/GRAPE-3 devices. Google argues that the additional non-published evidence adds further detail regarding VFLOAT/CNAPS/GRAPE-3. That argument is irrelevant and cumulative given its Invalidity Contention claim charts mapping those devices on an element-by-element basis to the printed publications cited therein.

As numerous courts have decided, this end-run around the IPR estoppel statute should not be permitted. For example, in *Wasica*, 432 F. Supp. 3d at 453-54, former Chief Judge Stark<sup>4</sup> granted partial summary judgment estopping Schrader from relying upon a device (ZR-1 Sensor) that was “cumulative” to documents that Shrader possessed during IPR that describing the features of the ZR-1 Sensor:

[P]atents or printed publications that relate to and describe a physical product can, like other patents and printed publications, be raised in an IPR. *See, e.g., Cobalt Boats, LLC v. Sea Ray Boats, Inc.*, 2017 WL 2605977, at \*4 (E.D. Va. June 5, 2017) (estopping former-petitioner from relying on prior art product manuals that reasonably could have been raised in IPR).

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<sup>4</sup> Chief Judge Stark was appointed a Justice of the Court of Appeals for the Federal Circuit in March 2022.

Schrader [] does not dispute that a 1990 article the parties refer to as “Siuru” (see D.I. 135 Ex. 5 at Attachment R) is a printed publication that discloses all of the relevant features of the ZR-1 Sensors and that Siuru reasonably could have been raised during the IPR. (See D.I. 134 at 16-19 (Wasica chart comparing Siuru to ZR-1 Sensors, which is unchallenged by Schrader, based on Schrader's expert, Dr. Williams, admitting that Siuru discloses each claim element allegedly shown by ZR-1 Sensors); D.I. 155 at 2)

\* \* \*

As Wasica observes, 35 U.S.C. § 312(a)(3) identifies as separate requirements to be included in an IPR petition “the **grounds** on which the challenge to each claim is based, and the **evidence** that supports the grounds for the challenge to each claim” (emphasis added). In this way, the Patent Act distinguishes between grounds and evidence. Since the estoppel provision, § 315(e)(2), applies to **grounds**, a petitioner is estopped from proceeding on those grounds, even if the **evidence** used to support those grounds was not available in the IPR.

\* \* \*

Therefore, all three categories of obviousness combinations Schrader seeks to assert at trial are estopped. . . . The Siuru 1990 prior art publication also reasonably could have been raised in the IPR and is materially identical (i.e., discloses the same claim elements) to the ZR-1 Sensors. Thus, all of the obviousness combinations challenged by the motion – that is, all of Schrader's obviousness “grounds” – “reasonably could have [been] raised during the IPR.” 35 U.S.C. § 315(e)(2). Accordingly, Wasica has met its burden to show that estoppel applies and Wasica's motion for summary judgment will be granted.

*Wasica*, 432 F. Supp. 3d at 453-55 (footnotes omitted).

The Court's decision is based on its agreement with Wasica that the statutory distinction between “grounds” and “evidence” leads to the conclusion that estoppel can apply to cumulative evidence [the ZR-1 sensor device] that is offered in litigation to support the same invalidity “grounds” that were presented in an IPR.

*Id.* at 455 n. 7.

As in *Wasica*, Google's invalidity claim charts map each element of the asserted claims to the printed publications describing the VFLOAT/CNAPS/GRAPE-3 devices. Accordingly, as in *Wasica*, Google should be estopped from relying on those devices in this case. *See also T'tees of*

*Columbia Univ.*, 390 F. Supp. 3d at 669-70, 676-77 (estopping, *inter alia*, invalidity arguments based on “DIDUCE and ReVirt systems”).

Similarly, in *Biscotti Inc. v. Microsoft Corp.*, No. 2:13 CV 01015, 2017 WL 2526231, at \*8 (E.D. Tex. May 11, 2017), the court stated that it would estop reliance on a device described in printed publications that could have been used in IPR proceedings:

If, however, [defendant’s] purported system prior art relies on or is based on patents or printed publications that [defendant] would otherwise be estopped from pursuing at trial ... then [defendant] should be estopped from presenting those patents and printed publications at trial.” *Id.*

Likewise, in *Avanos v. Medtronic*, the court enforced IPR estoppel against using a device that was described in documents that could have been raised in IPR:

Avanos contends that Medtronic is estopped from arguing invalidity with internal documents describing the Cool-Tip RF Ablation System because Medtronic “identified, and relies upon, printed publications to describe the Cool-Tip, such as FDA approval documents, research papers, websites, and catalogues, that it ‘raised or reasonably could have raised’ in the IPR.”

\* \* \*

[T]he inquiry is whether the non-public documentation *or physical product* is the only available material that cites certain limitations. Here, *the relevant claim limitations, such as a probe for delivering RF energy, the use of cooling fluid, and a temperature sensor, were adequately described in the publicly available documents* and did not require the more detailed confidential documents to describe the Cool-Tip product. As a result, Avanos's Motion is GRANTED with respect to Medtronic’s §§ 102 and 103 invalidity arguments which rely on the Cool-Tip system.

*Avanos Med. Sales, LLC v. Medtronic Sofamor Danek USA, Inc.*, No. 2:19-cv-02754, 2021 WL 8693677, at \*2 (W.D. Tenn. Oct. 8, 2021) (citations omitted, emphasis added).

These cases all followed the purpose and intent of the IPR statute described above, namely to reward a patent owner that survives IPR and estop a patent challenger in court that opts to pursue IPR. *Douglas Dynamics*, 2017 WL 1382556, at \*4 (“A patent infringement



defendant does not have to take the IPR option; it can get a full hearing of its validity challenge in district court. If the defendant pursues the IPR option, it cannot expect to hold a second-string invalidity case in reserve in case the IPR does not go defendant's way").

Indeed, this Court expressed a similar view at the January 11 hearing, observing that using a device having elements W, X, Y and Z if printed publications disclose those elements would not be right:

[S]o you have a printed publication that describes W and X, and you have another printed publication that describes Y and Z, and Google doesn't disclose either of those publications in the IPR, and then the witness comes in and says I have a system that's W, X, Y and Z, oh, and, by the way, this is also described in these publications, the first publication is W, X, and here's the second that says Y and Z. That strikes me as being a complete end run around the IPR process and the estoppel bar.

In other words, Google has held back publications that it could have disclosed, that, you know, were relevant to the obviousness argument. So it seems to me that that just can't be right.

1/11/23 Tr. at 24:23-25:11.

That end run is exactly what Google is trying to pull off in this case. It should not be permitted because, as the Court also stated at the January 11 hearing:

[Y]ou can't have an estoppel system that gives [Google] a great big wide-open barn door, you know, to drive around, to be able to hold back and if you lose relitigate the same issue. It can't work that way.

*Id.* at 28:9-12. Given the intent and purpose of the IPR estoppel statute described above, "[i]t can't work that way" with respect to the VFLOAT, CNAPS and GRAPE-3 devices. *See also Novartis v. Par Pharm.*, 2019 WL 9343055, at \*2 ("Allowing an IPR petitioner to have two bites at the apple by holding back certain obviousness combinations runs counter to both the clear language and purpose behind § 315.")

Google’s attempt to rely upon the device prior art described in the printed references cited in its claim charts is improper because it is “simply swapping labels for what is otherwise a patent or printed publication invalidity ground in order to ‘cloak’ its prior art ground and ‘skirt’ estoppel.” *Cal. Inst. of Tech. v. Broadcom Ltd.*, No. 16-3714, 2019 WL 11828236, at \*7 (C.D. Cal. Mar. 11, 2019). In a similar case, such a post-IPR attempt to rely on device prior art was found to be “disingenuous”:

While [defendant] seeks to cloak its reliance upon UVHC3000 as a product, so as to avoid § 315(e)(2) estoppel, such an argument is disingenuous as it is the UHVC3000 datasheet upon which [defendant] relies to invalidate the asserted claims.

*Clearlamp, LLC v. LKQ Corp.*, No. 12 C 2533, 2016 WL 4734389, at \*8 (N.D. Ill. Mar. 18, 2016).

### **III. GOOGLE’S HEARING (MIS)STATEMENTS**

At the hearing on January 11, 2023, Google made the following demonstratively inaccurate statements:

1. Google represented that it did not apply all the claim limitations on an element-by-element basis demonstrating that the printed publications describing the device anticipates the claims. *See* 1/11/23 Tr. at 28:18-24. Google’s statement at the hearing is directly opposite to its representations made in its invalidity contentions. For example, in its invalidity contentions, Google submitted 17 claim charts. Included in the 17 claim charts are the three at issue herein, namely Exhibits K, R and W. As a review of those charts demonstrates, Google applied each and every element of the claim solely to the cited printed publications.

2. Next, Google stated that in its claim charts there is no single publication that discloses all of the elements of this patent. 1/11/23 Tr. at 31:16-21; 33:17-24. Once again, that

statement is diametrically opposed to the Belanović/Lesser claim chart (Ex. R) and the GRAPE-3 claim chart (Ex. W). In Exhibit R, Google applied each element of the claim to the Pavle Belanović thesis entitled *Library of Parameterized Hardware Modules for Floating-Point Arithmetic with an Example Application*. In Exhibit W, Google applied each element to the Grape-3 Okumura publication. Google pointed out explicitly where it asserts that each of the respective elements was disclosed in this single publication. That is the definition of anticipation. *See, e.g., Zenith Elecs. Corp. v. PDI Comm. Sys., Inc.*, 522 F.3d 1348, 1363 (Fed. Cir. 2008).

3. Google next erroneously states that Google did not in its claim chart apply the last element of the claim (exceeds 100 limitation) to the Pavle Belanović thesis. 1/11/23 Tr. at 28:20-22. That representation by Google is again incorrect. The following is a portion of Google's claim chart in which Google directly applied the last limitation of the claim to the Belanović thesis:

Claim Limitation (Claim 7)	Exemplary Disclosure
[156f] and, wherein the number of LPHDR execution units in the device exceeds by at least one hundred the non-negative integer number of execution units in the device adapted to execute at least the operation of multiplication on floating point numbers that are at least 32 bits wide.	As reflected in Pavle Belanovic's thesis, <i>Library of Parameterized Hardware Modules for Floating-Point Arithmetic with an Example Application</i> , and his related article with Miriam Leeser, <i>Library of Parameterized Floating-Point Modules and Their Use</i> , they made and used a system in which the number of LPHDR execution units in the device exceeds by at least one hundred the non-negative integer number of execution units in the device adapted to execute at least the operation of multiplication on floating point numbers that are at least 32 bits wide. <i>See, e.g.:</i>  "Unlike in fixed-point, in floating-point arithmetic multiplication is a relatively straight-forward operation compared to addition. This is due to the sign-exponent-magnitude nature of the floating-point format. The sign of the product is the exclusive OR (XOR) of the operand signs. The exponent of

Claim Limitation (Claim 7)	Exemplary Disclosure
	the product is the sum of the operand exponents. The mantissa is the product of the operand mantissas. Note that the operations on all three fields of the floating-point format are independent and can be implemented in parallel. The structure of the floating-point multiplier is shown in Figure 2.” Belanovic and Leeser, <i>Library of Parameterized Floating-Point Modules and Their Use</i> at 4-5.

See Ex. R, pp. 13-14.

4. In an effort to fabricate a “non-public” evidence argument, counsel for Google stated that an additional 100 pages of VFLOAT code was not contained in the Belanović thesis. See 1/11/23 Tr. at 40:6-14. What Google does not tell the Court is that this additional 100 pages of code was not even mentioned in Google’s anticipated claim charts, and is thus, on its face, cumulative. Further, this code was published in 2002/2003, as confirmed by the declaration of Google’s own “prescient” expert witness Miriam Leeser. See Dkt. No. 394, ¶¶ 4, 9, 12. Accordingly, this code could also have been readily submitted to the PTAB if Google had chosen not to withhold it from IPR.

#### IV. CONCLUSION

For the reasons set forth above and in its opening and reply briefs, Singular requests that its motion for partial summary judgement be granted.

Dated: January 20, 2023

Respectfully submitted,

/s/ Paul J. Hayes

Paul J. Hayes (BBO #227000)

Matthew D. Vella (BBO #660171)

Kevin Gannon (BBO #640931)

Brian M. Seeve (BBO #670455)

Daniel McGonagle (BBO #690084)

**PRINCE LOBEL TYE LLP**

One International Place, Suite 3700

Boston, MA 02110

Tel: (617) 456-8000

Fax: (617) 456-8100

Email: phayes@princelobel.com

Email: mvella@princelobel.com

Email: kgannon@princelobel.com

Email: bseeve@princelobel.com

Email: dmcgonagle@princelobel.com

ATTORNEYS FOR THE PLAINTIFF

CERTIFICATE OF SERVICE

I certify that, on January 20, 2023, all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system.

/s/ Paul J. Hayes